

**Jeanne Sauber, Planetary Geodynamics Laboratory, Code 698**  
**NASA Goddard Space Flight Center, Greenbelt, MD 20771; ph.: 301-614-6465**  
**[Jeanne.M.Sauber-Rosenberg@nasa.gov](mailto:Jeanne.M.Sauber-Rosenberg@nasa.gov)**

### **Education**

1976 - B.S. (Geophysics) University of Michigan  
1979 - M.S. (Geophysics) University of South Carolina  
1988 - Ph.D. (Geophysics) Massachusetts Institute of Technology

### **Research Area Experience**

**1988 -present** Geophysicist, *NASA Goddard Space Flight Center*  
1984 – 1985 Geophysicist, Student Internship Program, *U.S. Geological Survey*  
1980 – 1982 Senior Research Assistant, *California Institute of Technology*

### **Professional Service (last 15 years)**

- GRACE Associate Science Team Member, Earthquake modeling, 2011-present
- Journal of Geophysical Research Solid Earth, Associate Editor, 2010-present
- NAS Long Range Geodesy Plan-Cryosphere session chair and report writing team; breakout chair at the EarthScope Planning Workshop, Oct 2009
- DESDynI Science Working Group, Solid Earth Member, 2008-2011
- DESDynI Applications Workshop, Facilitator and Participant, Oct. 2008
- UNAVCO Facilities Committee Member, 2005-2008
- NASA LIST Mission Science Working Group, 2007
- ICESat Associate Science Team Member: GSFC Laser Altimeter Data Product Verification/Validation Team, 1998-2006
- InSAR Workshop and Working Group Committee, 2004-2007
- Spring AGU *Geodesy Chair*, 2002, and EGS-AGU-EUG *Geodesy Chair*, 2003
- *Guest Editor* for topical issue of *Quaternary Science Reviews* with I. Stewart (Brunel, UK), and J. Rose (London, UK) on “Glacio-seismotectonics: Ice sheets, Crustal Deformation and Seismicity”, vol. 19(14-15), pp 1542, 2000.

### **Educational and Outreach Service**

- External Committee Member: L. Walsh, UMD, 2011, B. Whitney, Humboldt State, 2009, S. Samsonov, University of Western Ontario, 2007
- Mentor, GSFC Graduate Student Summer Research program, Katy Weist (Univ. of Texas, El Paso) Summer, 2004 and Eryn Klosko (Northwestern), Summer 1999
- American Geophysical Union Lecturer at National Science Teachers Association National meeting in Boston “Earthquake Hazard in Alaska: Studying Subduction from Space”, March 1999.
- Included Alaskan High School students and their teachers in GPS observations program; 7 in 1995, 20 in 1997 and 3 in 1999

### **Scientific Publications**

Han, S, J. Sauber, and F Pollitz, 2014, Broad-scale postseismic gravity change following the 2011 Tohoku-Oki earthquake and implications for deformation by viscoelastic relaxation and afterslip, submitted to *Geophy. Res. Letter*, June.

Turrin, J. , R. Forster, J. Sauber, D. Hall, and R. Bruhn, 2014, Effects of bedrock lithology and subglacial till on the ice dynamics of an Alpine Glacier deduced from five pulses of Ruth Glacier, Alaska" accepted J. of Glaciology.

Cotton, M, R. Bruhn , J. Sauber, E. Burgess , R. Forster, 2014, Ice Surface morphology and flow on the Malaspina Glacier, Alaska: Implications for regional tectonics in the Saint Elias Orogen, *Tectonics*, April 2014.

Han, S., R. Riva, J. Sauber, and E. Okal, 2013, Source parameter inversion for recent great earthquakes from a decade-long observation of global gravity fields", *J. Geophys. Res. Solid Earth*, 118, 1240-1267, doi:10.1002/jgrb.50116

Turrin, J., R. Forster, C. Larsen, J. Sauber, 2013, The propagation of a surge front on Bering Glacier, Alaska, 2001-2011, *Annals of Glaciology*, 54(63), 221-228.

Bruhn, R.L., J. Sauber, M.Cotton, T. Pavlis, E. Burgess, N. Ruppert, R. Forster, 2012, Plate margin deformation and active tectonics along the northern edge of the Yukat   Terrane in the Saint Elias Orogen, Alaska and Yukon, Canada, *Geosphere*, 8(6), 1-24, doi:10.1130/GES00807.1.

Han, S. J. Sauber and R. Riva, 2011, Contribution of satellite gravimetry to understanding seismic source processes of the 2011 Tohoku-Oki earthquake, *Geophys. Res. Lett.*, 38, L24312,, doi:10.1029/2011GL049975

Han, S., J. Sauber, and S. Luthcke, 2010, Regional gravity decrease after the 2010 Maule (Chile) earthquake indicates large-scale mass redistribution, *Geophys. Res. Lett.*, 37, L23307, doi:10.1029/2010GL045449.

Sauber, J., et al., 2010, Solid Earth Applications of DESDynI Lidar, IGARSS proceedings, IEEE Xplore Digital Library.

Muskett, R.R., C.S. Lingle, J.M. Sauber, A.S. Post, W.V. Tangborn, B.T. Rabus, K.A. Echelmeyer, 2009, Airborne and spaceborne DEM- and laser altimetry-derived surface elevation and volume changes of the Bering Glacier system, Alaska, USA, and Yukon, Canada, 1972-2006, *J. of Glaciology*, 55(190), 318-326.

Muskett, R.R., C.S. Lingle, J.M. Sauber, A.S. Post, W.V. Tangborn, and B.T. Rabus, 2008, Surging and Accelerating Surface Lowering of the Malaspina Glacier System, Alaska, U.S.A., and Yukon, Canada from 1972-2006, *J. of Glaciology*, Vol. 54 (188), 788-800.

Sauber, J., and N. Ruppert, 2008, Rapid ice mass loss: Does it have an influence on earthquake occurrence in southern Alaska, in Active tectonics and seismic potential in Alaska, eds. P. Haeussler, J. Freymueller, R. Wesson, "Active Tectonics and Seismic Potential of Alaska", *Geophysical Monograph Series*, 179, 369-384.

Carver, G., J. Sauber, W. Lettis, R. Witter, and B. Whitney, 2008, Active faults on Northeastern Kodiak Island, Alaska, eds. P. Haeussler, J. Freymueller, R. Wesson, "Active Tectonics and Seismic Potential of Alaska", *Geophysical Monograph Series*, 179, 167-183.

Han, S-C, J Sauber,1 S. Luthcke, C.Ji, and F.. Pollitz, 2008, Implications of postseismic gravity change following the great 2004 Sumatra-Andaman earthquake from the regional harmonic analysis of GRACE intersatellite tracking data, *J. Geophys. Res.*, 113, (B11413) doi:10.1029/2008JB005705.

Muskett, R.R., C.S. Lingle, J. M. Sauber, B.T. Rabus, W.V. Tangborn, 2008, Acceleration of surface lowering on the tidewater glaciers of Icy Bay, Alaska, U.S.A., from InSAR DEMs and ICESat altimetry, *Earth Planetary Sci. Lett.*, 265, 345-359.

Atwood, D., R. Muskett, R. Guritz, C. Lingle, J. Sauber and J. Freymueller, 2007, DEM control in Arctic Alaska with ICESat, laser altimetry, *IEEE Transactions on Geoscience and Remote Sensing*, (includes cover), 45(11), 3710-3720.

Doser, D., K Wiest,\_and J. Sauber, 2007, Seismicity of the Bering Glacier Region and its Relation to Tectonic and Glacial Processes, *Tectonophysics*, 439, 119-127.

Sauber, J., G. Carver, S. Cohen, and R. King, 2006, Crustal deformation and the seismic cycle across the Kodiak Islands, Alaska, *J. Geophys. Res.*, 111, B02403, doi:10.1029/2005JB003626.

Sauber, J., B. Molnia, C. Carabajal, S. Luthcke, and R. Muskett, 2005, Ice elevations and surface change on the Malaspina Glacier, Alaska, *Geophys. Res. Lett.*, 32, L23S01, doi:10.1029/2005GL023943.

Sauber, J., and B. Molnia, 2004, Glacier ice mass fluctuations and fault instability in tectonically active southern Alaska, *Global and Planetary Change, Topical Volume "Ice Sheets and Neotectonics"*, 42, 279-293.

Jaeger, J., B. Hallet, T. Pavlis, J. Sauber, D. Lawson, J. Milliman, R. Powell, S.P. Anderson, and R. Anderson, 2001, Orogenic and glacial research in pristine southern Alaska, *Eos Trans., AGU*, 82(19), 213, 216.

Rowlands, D.D., C. C. Carabajal, S.B. Luthcke, D. Harding, J.M. Sauber, and J.L. Bufton, 2000, Satellite Laser Altimetry: on-orbit calibration techniques for precise geolocation, *Review of Laser Engineering*, 28(12), 796-803.

Stewart, I., J.Sauber, and J. Rose, 2000, Glacio-seismotectonics: Ice sheets, crustal deformation, and seismicity (review article), *Quaternary Science Reviews*, 19(14-15), 1367-1390.

Meigs, A., and J. Sauber, 2000, Southern Alaska as an example of the long-term consequences of mountain building under the influence of glaciers, *Quaternary Science Reviews*, I. Stewart, J. Sauber, and J. Rose, eds., 19(14-15), 1543-1562.

Sauber, J., G. Plafker, B. Molnia, and M. Bryant, 2000, Crustal deformation associated with glacial fluctuations in the eastern Chugach Mountains, Alaska, *J. Geophys. Res.*, 105 (B4), 8055-8077.

Sauber, J. and R. Dmowska, 1999, Introduction to "Seismogenic and Tsunamagenic Processes in Shallow Subduction Zones", J. Sauber and R. Dmowska, eds., *Pageoph*, 154, 3-4, 405-407. (The full *Pageoph* volume was reprinted as a book by Birkhauser, Basel, 1999)

Sauber, J., S. Stockman, and T. Clark, 1999, Educational outreach strategy involves students in earthquake hazard research, *Earth in Space*, 11(6), 1-16.

Sauber, J., S. Stockman, and T. Clark, 1998, Educational outreach strategy involves K-12 students in earthquake hazard research, *Eos Trans. AGU*, 79(33), 396-397.

Sauber, J., S. McClusky, and R. King, 1997, Relation of ongoing deformation rates to the subduction zone process in southern Alaska, *Geophys. Res. Lett.*, 24(22), 2853-2856, Nov. 15.

Stockman, S., J. Sauber, and E. Linschied, 1997, A high school and NASA join forces to investigate the Alaska-Aleutian subduction zone near Kodiak Island, *J. of Geoscience Ed.*, 45, 440-446.

Sauber, J., and B. Molnia, 1997, Ice Mass "Moves" the Earth, 46-48, P.F. Schewe and B.P. Stein eds., *Am. I. Physics*, College Park, Maryland.

Johnson, J., K. Satake, S. Holdahl, and J. Sauber, 1996, The 1964 Prince William Sound earthquake: joint inversion of tsunami and geodetic data, *J. Geophys. Res.*, 101(B1), 523-532.

Sauber, J., G. Plafker, and J. Gipson, 1995, Geodetic measurements used to estimate ice transfer during Bering Glacier surge, *Eos Trans. AGU*, 76(29), 289-290.

Sauber, J. W. Thatcher, S.C. Solomon, and M. Lisowski, 1994, Geodetic slip rate for the eastern California shear zone and the recurrence time of Mojave desert earthquakes, *Nature*, 367, 264-266.

Holdahl, S. and J. Sauber, 1993, Coseismic slip in the 1964 Prince William Sound earthquake: a new geodetic inversion, *Pageoph.*, 14(4), 55-82.

Sauber, J., T.A. Clark, L.J. Bell, M. Lisowski, C. Ma, and D.S. Caprette, 1993, Geodetic measurement of static displacement associated with the 1987-1988 Gulf of Alaska earthquakes, *Contributions of Space Geodesy to Geodynamics, Crustal Dynamics, Geodynamics Series*, 23.

Ma, C., J. Sauber, L. Bell, T. Clark, D. Gordon, W. Himwich, and J. Ryan, 1990, Measurement of horizontal motions in Alaska using very long baseline interferometry, *J. Geophys. Res.*, 95, 21991 - 22013.

Clark, T.A., C. Ma, J.M. Sauber, J.W. Ryan, D. Gordon, D.B. Shaffer, D.S. Caprette, and N.R. Vandenberg, 1990, Geodetic measurement of deformation in the Loma Prieta, California earthquake with very long baseline interferometry, *Geophys. Res. Lett.*, 17, 2015 - 2018.

Sauber, J., M. Lisowski, and S. Solomon, Geodetic measurement of deformation east of the San Andreas fault, central California, 1989, *in* Slow Deformation and Transmission of Stress in the Earth, *Geophys. Mon. Series*, eds. S. Cohen and P. Vanicek, AGU, Washington, D.C..

Sauber, J., 1987, Book review of "Active Tectonics", edited by Robert Wallace, *Pageoph.*, 125(5), 864-866.

Sauber, J., W. Thatcher, and S. Solomon, 1986, Geodetic Measurement of deformation in the central Mojave Desert, *J. Geophys. Res.*, 91, 12683-12693.

Sauber, J., 1985, Book review of "An Introduction to the Seismicity of the United States", by S.T. Algermissen, *Pageoph.*, 123.

Sauber, J., K. McNally, J. Pechmann, and H. Kanamori, 1983, Seismicity near Palmdale, California, and its relation to strain changes, *J. Geophys. Res.*, 88(B3), 2213-2219.

Sauber, J., and P. Talwani, 1980, Application of Keilis-Borok and McNally prediction algorithms to earthquakes in the Lake Jocassee area, South Carolina, *Phys. Earth Planet. Inter.*, 21 (2-3), 267-281.